

RANGE SUMMARY

The PowerSafe DDr product line offers an ideal solution for railroad signal and communications applications, as well as renewable energy (solar) applications. Its VRLA recombinant technology, along with absorbed glass mat (AGM) separators, minimizes maintenance and no watering is required throughout the life of the product. This technology coupled with thick positive plates and a welded/epoxy, dual post seal make the PowerSafe DDr an ideal long life solution.

The PowerSafe DDr cell is designed with several integral features that not only maximize performance, but also assures the product will meet even the most stringent quality standards. Thicker positive plates help ensure longer life. While the welded/epoxy, dual post seal design provides the highest integrity seal in the industry.

Cells are encased in dedicated steel cans that maintain constant, uniform compression for the life of the cell. These steel cans also offer cell protection during transport to remote locations and help simplify cell handling and installation.

Features & Benefits

- Capacity range: 200Ah - 400Ah
- 100% "out of box" initial battery capacity
- VRLA recombinant technology - low maintenance - no watering required
- Steel can offers cell protection from damage during transport
- Design life: 20 years float life @ 77°F (25°C)



Construction

- Positive plate - Thick 0.252" lead-calcium-tin grids minimize corrosion and prolong life
- Negative plate - Balanced lead-calcium grids optimize recombination efficiency
- AGM separator - Mechanically strong, low electrical resistance, microporous glass fiber which completely absorbs the electrolyte into its structure
- Container/Cover - Polypropylene standard. Optional flame retardant polypropylene available (UL94 V-0/L.O.I. 28%)
- Containers are single-piece construction
- Electrolyte - Diluted sulfuric acid
- Terminal post - Lead casted terminal. Threaded copper insert, with large surface area, to provide maximum conductivity
- Terminal seal - Ring burn with secondary epoxy resin seal is 100% water bath tested in the factory and proven in service
- Relief valve - Operates at 2-3 psi and is complete with integral flame arrestor

Operation

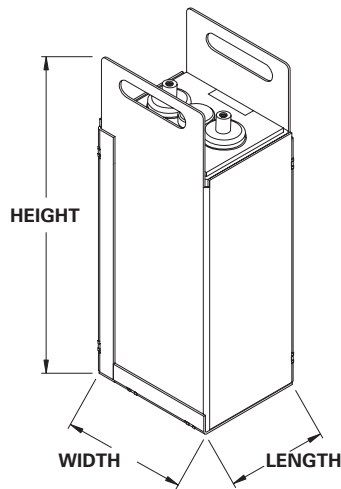
- Float voltage Range: 2.23 - 2.27 Vpc @ 77°F (25°C); recommended 2.25 Vpc
- Temperature Range: -4°F (-20°C) to 140°F (60°C); recommended 77°F (25°C)
- Cells can be installed either horizontally or vertically to maximize configurability

Standards

- Recognized by UL (UL Standard 1989)
- Non-spillable classification (UN2800)
- Approved for air transportation (IATA A67)
- Manufactured in EnerSys production facilities certified to ISO 9001:2000

General Specifications

Type	Nominal Voltage (V)	Nominal Capacity (Ah)		Nominal Dimensions						Typical Weight	
		10hr. rate 1.80Vpc @ 20°C	8hr. rate 1.75Vpc @ 77°F	Length		Width		Height		kg	lbs
DDr 50-09	2	200	200	99	3.9	165	6.5	419	16.5	15.6	40.9
DDr 50-13	2	300	300	137	5.4	165	6.5	419	16.5	26.1	57.4
DDr 50-17	2	400	400	176	6.9	165	6.5	419	16.5	34.0	74.7



Accessories

Accessory Package supplied with each cell includes:

- #4 connection cable, 12"
- (2) bolts, M8-1.25, Hex, 316SS
- (2) washers, M8, Flat, 316SS
- (2) washers, M8, Lock, 316SS
- (2) 3.5" hand protectors

Discharge Rates in Amperes to 1.75Vpc at 77°F (25°C)

Type	Nominal Capacity (Ah)		Hours									
	10 hr.rate 1.80Vpc @ 20°C	8 hr.rate 1.75Vpc @ 77°F	1	2	3	4	5	6	8	10	12	24
DDr 50-09	200	200	113	70	52	42	36	31	25	21	18	11
DDr 50-13	300	300	169	106	78	64	54	47	38	32	27	16
DDr 50-17	400	400	226	141	104	85	72	63	50	42	36	22

Discharge Rates in Amperes to 1.90Vpc at 77°F (25°C)

Type	Nominal Capacity (Ah)		Hours									
	10 hr.rate 1.80Vpc @ 20°C	8 hr.rate 1.75Vpc @ 77°F	1	2	3	4	5	6	8	10	12	24
DDr 50-09	200	200	81	55	44	36	31	27	22	18	16	9
DDr 50-13	300	300	122	83	65	55	47	41	33	28	24	14
DDr 50-17	400	400	162	111	87	73	62	54	44	37	32	18



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